

## CLAIMS

What is claimed is:

- 1 1. A method of maintaining synchronization of an inband signaling system  
2 comprising the steps of:  
3 collecting inband signaling information from samples in a signaling channel;  
4 synchronizing the signaling system based on the collected inband signaling information;  
5 and  
6 continuing to collect inband signaling information while the signaling system is  
7 synchronized for use in resynchronizing the signaling system when  
8 synchronization is lost.
- 1 2. The method of claim 1, wherein the inband signaling information is comprised of  
2 a plurality of bits taken from samples in the signaling channel.
- 1 3. The method of claim 2, wherein a plurality of sample grids are filled with the bits  
2 taken from samples in the signaling channel.
- 1 4. The method of claim 3, wherein the a plurality of sample grids are maintained  
2 during the time that the inband signaling system is synchronized.
- 1 5. The method of claim 1, further comprising the step of generating an inband  
2 message channel from the collected bits.

1 6. The method of claim 5, further comprising the step of generating a second inband  
2 message channel from the collected bits.

1 7. The method of claim 1, wherein the inband signaling system is a GSM speech  
2 network.

1 8. The method of claim 1, wherein the inband signaling system is a TDMA speech  
2 network.

1 9. The method of claim 1, wherein the inband signaling system is a CDMA speech  
2 network.

1 10. The method of claim 1, wherein the inband signaling system is a W-CDMA  
2 speech network.

1 11. The method of claim 1, further comprising the step of using the inband signaling  
2 information to facilitate tandem free operation in the inband signaling system.

1 12. A method of facilitating tandem free operation of two devices in an inband  
2 signaling system having an inband signaling message comprised of the concatenation of  
3 the least significant bit of every  $M^{\text{th}}$  sample of a digital signaling channel, the method  
4 comprising the steps of:  
5 collecting the least significant bit of samples of the digital signaling channel;  
6 filling M sample grids with the collected bits to provide M possible sample grids;



1 19. A tandem free operation inband signaling synchronization system comprising:  
2 a storage device that maintains a plurality of sample grids, wherein samples are collected  
3 from a signaling channel and are used to fill the plurality of sample grids; and  
4 a detector that detects the presence of an inband signaling channel based on the contents  
5 of the plurality of sample grids, wherein a detected inband signaling channel is  
6 used to synchronize devices to facilitate tandem free operation, and wherein the  
7 collection of samples continues during synchronization to maintain the plurality  
8 of sample grids for facilitation of rapid resynchronization.

1 20. A method of synchronizing devices in an inband signaling system comprising the  
2 steps of:  
3 providing a synchronization technique for synchronizing one or more devices in the  
4 inband signaling system;  
5 applying the synchronization technique to the inband signaling system to synchronize the  
6 one or more devices; and  
7 continuing to apply the synchronization technique while the one or more devices are  
8 synchronized in order to facilitate rapid resynchronization of the one or more  
9 devices if synchronization is lost.

1 21. The method of claim 20, wherein the synchronization technique involves the  
2 collection of bits from a signaling channel to provide an inband signaling channel.

1 22. The method of claim 21, wherein the collection of bits continues while the one or  
2 more devices are synchronized.